

ATTACHMENT B

REMARKS

By this amendment, Applicants have made amendments to the claims which are minor in that they only modify the language of the claims in a manner to present them in more proper form and to make it entirely clear to the Examiner that the features of the protein crystallization apparatus of present invention are clearly not disclosed or suggested in the prior art. In short, it is clear that the Examiner has been confused with regard to the key features and advantages of Applicants' claimed invention which solves the problems associated with carrying out protein crystallization in a tray containing a plurality of sealable wells in which a cover **must** be used (so as to carry out the crystallization process). In particular, as set forth in more detail below, this key and unobvious feature of the invention is the provision of means to achieve **sufficient spacing** between the lowermost plane created by the bottom of the sealable wells and the uppermost plane created by the tops of the sealable wells in the protein crystalline tray stacked beneath it which will **include a cover** which must not be disrupted by the impingement of the bottom surface of the tray above it.

In the Final Rejection, all prior rejections and objections have been withdrawn, and the only remaining rejection is on the basis of the combination of the inventor's own prior patent US 5,419,278 to a protein crystallization device in view of either Miller patent US 5,384,103 or Tabler US Patent 4,600,103, neither of which remotely relate to a protein crystallization device. As set forth below, these references simply do not disclose or suggest Applicant's invention, nor do they recognize or are reasonably pertinent to the problem solved by Applicant's invention.

In the Final Rejection, the Examiner properly cites and describes Applicant's own prior patent, U.S. Pat. No. 5,419,278 issued to the present inventor, Dr. Daniel C. Carter, Ph.D. The device shown in US 5,419,278 is indeed a protein crystallization tray and in fact is the type of tray for which the present invention overcomes a distinct problem with the prior trays, namely the fact that in past trays where the bottom of one tray impinged upon the top surface of the tray below it, there was disruption to the cover slip on top of the opening of the cylindrical wells in which protein crystallization took place. This issue is of utmost importance to the field of protein crystallization using these types of trays because the wells **must** be sealed in order to have the proper protein crystallization procedures to take place. Accordingly, it is an absolute **necessity** that the wells of the crystallization tray be covered with a cover slip. This problem was not recognized or solved at all in Dr. Carter's prior patent which, as the Examiner correctly points out, "does not disclos[e] the side walls extend[ing] beyond the lowermost surface of the sealable well [or] a lower end configuration so as to form an outer base capable of allowing the tray to be stacked on the outer portion of the upper surface of a second stackable tray positioned below the first tray while maintaining separation between the upper openings of the second tray and the lower surface of the sealable wells of the first tray..." See Final Rejection, page 2-3. In other words, it was clearly not obvious to have developed a method of achieving such separation between the trays to allow sufficient spacing to avoid disruption of the cover slip in the second tray below the first tray, otherwise such an improvement would have been disclosed with the disclosure of the initial tray.

Moreover, no one else in the relevant art, namely the field of protein crystallization wherein sealed wells are necessary to conduct proper protein crystallization procedures, has disclosed or suggested any such improvement, nor has anyone acknowledged or attempted to solve the problem overcome by the present invention, as evidenced in the numerous protein crystallization tray patents such as those cited by the Examiner, including US 5,419,278, 5,130,105 and 5,643,540 issued to Dr. Carter; 5,078,975 issued to Rhodes et al; and 5,096,676 issued to McPherson et al. which do not address this issue. It is thus clear that the present invention was not obvious to one of ordinary skill in the relevant art, namely the protein crystallization art having its particular requirement for sealable trays that could also be stacked without disruption to the delicate protein crystallization process.

It is also thus clear that neither the Miller patent nor the Tabler patent cited by the Examiner discloses or remotely suggests the presently claimed invention, and indeed because they relate to an entirely different field of invention, there is no recognition of the problem particular to the protein crystallization field, much less any inkling of a solution. Accordingly, neither of these references can be combined with the prior Carter patent to anticipate or make obvious Applicant's present invention. See In re Oetiker, 24 USPQ2d 1443 (Fed. Cir. 1992) (prior art reference in order to be used in a rejection must either be in the field of applicant's endeavor or, if not, be reasonably pertinent to the particular problem with which inventor was concerned). Indeed, the Oetiker case presented circumstances much like the present case wherein the cited art was not only **not** in the field of Applicant's invention, it was **not** reasonably pertinent to the particular problem overcome by Applicant's invention.

In Oetiker, the invention related to a "stepless earless" metal hose clamp which was, much like the present application, "generally described in an earlier . . . patent" from the same inventor, but which now, as in the present case, featured a specific improvement (a hook) which overcame a prior problem and allowed the clamp to maintain its preassembly condition and disengage automatically when the clamp was tightened. The Examiner had rejected the new Oetiker application on the basis of the inventor's prior patent in combination with a reference from an unrelated field (Lauro) which disclosed a hook and eye fastener for use in garments. The Examiner argued that the Lauro patent could be combined with the prior Oetiker patent because "since garments commonly use hooks for securement, a person faced with the problem of unreliable maintenance of the pre-assembly configuration of an assembly line metal hose clamp would look to the garment industry art." 24 USPQ 2d at 1445.

However, the Federal Circuit **directly overruled** the Examiner's rejection and held that such a combination was **improper**. Specifically, in addressing this point, the Federal Circuit stated:

In order to rely on a reference as a basis for rejection of the applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. See *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986). Patent examination is necessarily conducted by hindsight, with complete knowledge of the applicant's invention, and the courts have recognized the subjective aspects of determining whether an inventor would reasonably be motivated to go to the field in which the examiner found the reference, in order to solve the problem confronting the inventor. We have reminded ourselves and the PTO that it is necessary to consider "the reality of the circumstances", *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979) -- in other words, common sense -- in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.

It has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments. The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself. *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678-79, 7 USPQ2d 1315, 1318 (Fed. Cir. 1988); *In re Geiger*, 815 F.2d 686, 687, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1147, 227 USPQ 543, 551 (Fed. Cir. 1985).

See 24 USPQ2d at 1445-1446.

In short, it is clear that Applicants' claimed invention relates to a protein crystallization tray containing a plurality of sealable wells in which a cover **must** be used (so as to carry out the crystallization process), and the novel and unobvious feature of the invention is the provision of means to achieve **sufficient spacing** between the lowermost plane created by the bottom of the sealable wells and the uppermost plane created by the tops of the sealable wells in the protein crystallization tray stacked beneath it. Such an invention is clearly **not** disclosed or suggested in the cited references which are **not** in analogous fields and which do **not** recognize or remotely attempt to solve the problem overcome by Applicant's invention.

In particular, with regard to the Miller reference, the Examiner concedes that the prior art Miller reference does **not** relate to the present invention which deals with trays with stackable wells that **must** have a cover, but instead discloses a general medical tray which is "stacked more securely and are able to withstand below without the contents of the tray becoming dislodged **whether or not a cover is used.**" See Final Rejection, Page 3 (emphasis added).

Further, the Examiner goes on to say that “Miller teaches stacking trays with or without lids, which is the problem with which the applicant was concerned.” See Final Rejection, Page 5. In fact, the **exact opposite** is true – the applicant was only concerned with providing an improved protein crystallization tray wherein each upper tray surface (i.e., the tops of the sealable wells) **must have a cover**, namely a plurality of cover slips over the sealable wells, but with the claimed improvement which provides sufficient spacing between the bottom of the lowermost plane created by the bottom of the sealable wells and the uppermost plane created by the top of the sealable wells so that protein crystallization can take place without disruption as would be caused if the bottom of the tray impinged upon the upper opening of the sealable wells.

In other words, the Examiner essentially concedes that Miller is fundamentally different than the present invention and does not recognize or solve the problem solved by the present invention which only relates to protein crystallization trays which **must** have a cover so that protein crystallization takes place in the sealable wells. Clearly, the Miller reference is **not** at all concerned with keeping the bottom of the first tray from impinging upon the top surface of the tray beneath it, as reflected above by the Examiner’s comments that Miller’s tray does not care whether or not a cover is used, and as shown in the drawings wherein the “feet” of the Miller tray (elements 82, 84, 86) do not, as in Applicants’ invention, create spacing between the lower end of the first tray, but in fact **are received by holes**, namely circular apertures 90, 92, 94 and 96 (see Fig. 1 and Cols. 4-5). It is thus conceded by Miller that his tray may be used “with or without a cover” (see Col. 5, top paragraph) which is different from the present invention wherein the tops of the sealable wells in each tray **must be sealed by a**

cover so that protein crystallization can take place. Accordingly, Miller **teaches away** from the present invention and is **not concerned at all** with the problems solved by the present invention, namely creating a tray for **protein crystallization** wherein the tops of the sealable wells in each protein crystallization tray **must be covered in order to allow protein crystallization to take place.**

It is thus the case that the cited Miller reference does not disclose or remotely suggest the present invention, and thus cannot be combined with any other reference to anticipate or make obvious the present invention.

The Tabler reference is even further afield from the present invention in that it is a simple bakery tray, and clearly does not disclose or suggest any type of tray that would be used in protein crystallography, particularly one that would have a plurality of cylindrical sealable wells which must be sealed with a cover slip in order to carry out protein crystallization. Indeed, there is no disclosure or suggestion of such a structure, and instead, the Tabler bakery tray does not have sealable wells, but instead features a top which is not designed to be planar with openings in sealable wells, and which is not designed to be sealed with cover slips. In fact, because Tabler relates to a bakery tray, there is no indication whatsoever of the need to provide such a sealable well enclosure, which is not surprising since this reference does not remotely relate to protein crystallization. Accordingly, not only is there **no** disclosure, motivation or suggestion of Applicant's claimed invention, indeed, as in the cited Oetiker case, there is no recognition or attempted resolution of the pertinent problem solved by the present invention, nor would anyone skilled in the complex field of protein crystallography be

motivated in any way to look at bakery trays to solve the intricate problems particular to the field of protein crystallization.

The Tabler reference thus does not disclose or suggest the present invention, nor can it be combined with any reference to anticipate or make obvious Applicant's claimed invention.

Accordingly, neither the Miller nor Tabler reference discloses or remotely suggest the present invention, namely a protein crystallization tray having a plurality of wells which must be sealed to allow protein crystallization to take place, wherein sufficient spacing is provided between the bottom plane formed by the lowermost surface of the wells and the top plane formed by the uppermost surface of the wells in the tray below it so that the coverslips across the tops of the sealable wells are not impinged by the lowermost surface of the wells above it. Clearly, neither Miller nor Tabler recognize, much less remotely resolve, the problems appurtenant to protein crystallization trays that are solved by the present invention, and thus these references actually **teach away** from the present invention because they **are not concerned** with establishing sufficient spacing between the lowermost place of a plurality of sealable wells and the uppermost surface of the wells which will contain a coverslip that cannot be disturbed by the impingement from the well above it.

The Examiner's rejection on the basis of these references is thus totally without merit and should be withdrawn. Upon entrance of the present amendment, and the withdrawal of this improper rejection, the present application will be placed in condition for immediate allowance, and such action is earnestly solicited.

END REMARKS